

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003409**Date Inspected:** 08-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	N/A	<b>CWI Present:</b>	Yes	No			
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A

**Bridge No:** 34-0006**Component:** OBG & Tower**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**OBG Bay 3:**

The QA Inspector randomly observed ZPMC welder Wang Zhonghua ID Number 053753 utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-P-2112-FCM, to attach I-Ribs to Side Plate Sub-Assembly SP189-001 (Short Side) at Weld Joint (WJ) Numbers SP189-001-023 to 026. The QA Inspector randomly observed ZPMC CWI Xu Jiang Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Ni Leijiang ID Number 037723 and Feng Changdou ID Number 067572, utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-P-2112-FCM, to attach T-Ribs and T-Ribs to Side Plate Sub-Assembly SP184-001 (Long Side) at WJ's SP184-001-057 to 058. The QA Inspector randomly observed ZPMC CWI Xu Jiang Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Lv Peng ID Number 048617 and Fu Yan Jie ID Number 066268, utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS

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WPS-B-P-2112-FCM, to attach T-Ribs to Side Plate Sub-Assembly SP187-001 at WJ's SP189-001-051 to 058. The QA Inspector randomly observed ZPMC CWI Xu Jiang Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder He Yu Mei ID Number 053753 utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-U2-F, to weld the butt splices between 22 millimeter (mm) thick I-Ribs and the 12 mm thick webs of T-Ribs for Side Plate Sub-Assembly SP197-001 at WJ's SP197-001-016, 018, 020, 022, 024 and 026. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 286 amps, 29.4 volts with a travel speed of 300 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed a ZPMC welder utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-U3c-S-1, to weld the splice between 35 mm and 20 mm thick sections of Bottom Plate Sub-Assembly BP301-001 WJ BP301-001-007. The QA Inspector randomly observed ZPMC CWI Xu Jiang Ping monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 503 amps, 29.8 volts with a travel speed of 421 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Sun Ti Yu ID Number 054459, Liu Zihong ID Number 062447 and Li Shu Liang ID Number 048801, utilizing gantry mounted welding apparatus with the FCAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2132-3, to weld I-Ribs to Side Plate Sub-Assembly SP383-001 at WJ's SP383-001-003/004, 007/008 and 011/012. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 298/294 amps, 30.2/30.5 volts (WJ 003/004) for Mr. Sun; 287/293 amps, 30.2/29.8 volts (WJ's 007/008) for Mr. Liu; 301/299 amps, 30.3/29.8 volts for Mr. Li and a travel speed of 430 mm per minute for all 3 welders. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

OBG Bay 4:

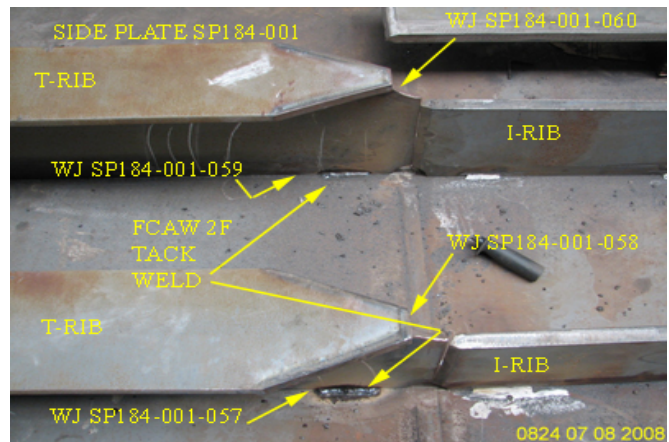
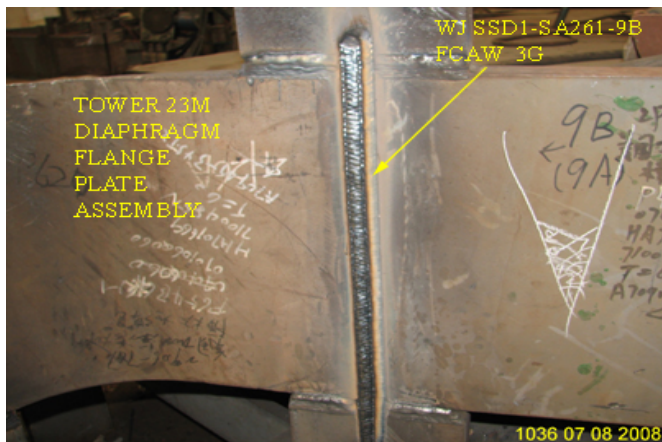
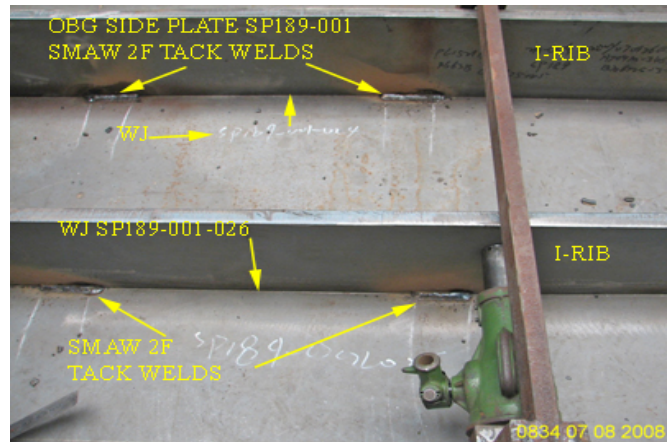
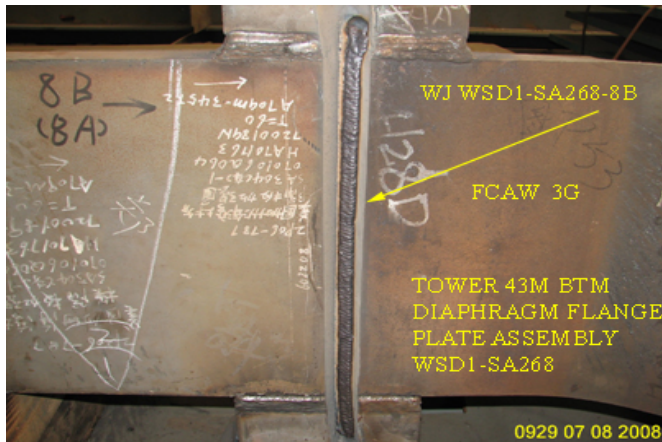
The QA Inspector randomly observed ZPMC welder Li Xue Hua ID Number 058174 and Li Zhao Qian ID Number 048810, utilizing the FCAW Process in the 3G (Vertical Groove) Position with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld the butt splices between Diaphragm Flange Plate Assembly WSD1-SA268 sections for 43M Tower Bottom Diaphragm Sub-Assembly at WJ's WSD1-SA268-6B & 8B. The QA Inspector randomly observed ZPMC CWI Ye Yong Jun monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 202 amps, 24.7 volts with a travel speed of 202 mm per minute for Mr. Li Xue Hua (SA304/p1082) and 205 amps, 26 volts with a travel speed of 215 mm per minute for Mr. Li Zhao Qian (p1255/p1252). The weld parameters appeared to comply with contract requirements. The attached photographs provide additional detail.

The QA Inspector randomly observed ZPMC welder Jiang Junliu ID Number 067876 and Dai Xi Chang ID

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Number 066012, utilizing the FCAW Process in the 3G (Vertical Groove) Position with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld the butt splices between Diaphragm Flange Plate Assembly SSD1-SA261 sections for 23M Tower Bottom Diaphragm Sub-Assembly at WJ's SSD1-SA26-4B (SA332/p1082) & 6B (p620/p417). The QA Inspector randomly observed ZPMC CWI Ye Yong Jun monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photographs provide additional detail.



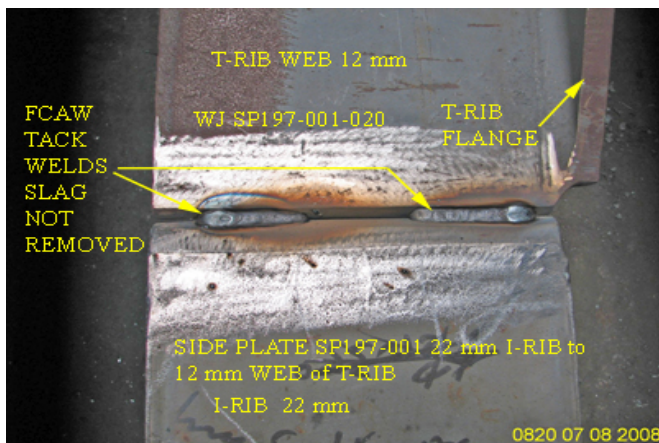
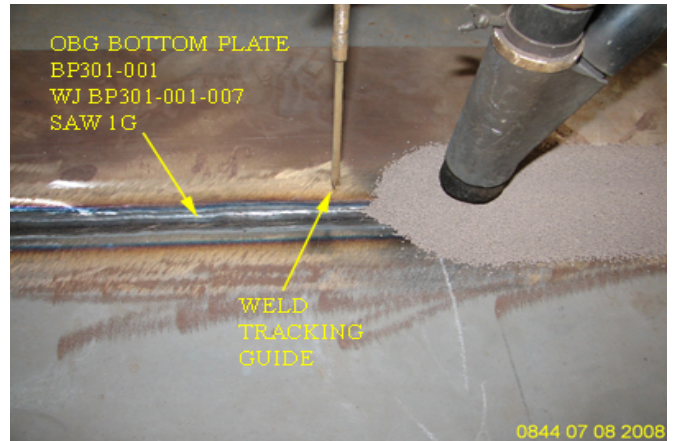
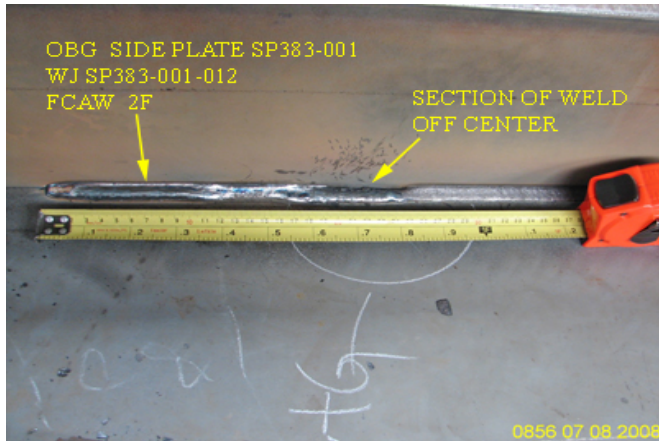


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## Summary of Conversations:

As noted in the above body of this report.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco 13816942685, who represents the Office of Structural Materials for your project.

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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Carreon,Albert

QA Reviewer